

- 7 -
CLAIMS

1. Apparatus for the continuous cold sterilization of a fluid comprising at least one ultraviolet radiation source and at least one duct permeable to such radiation in which
5 said fluid flows, said duct having a portion that extends helically around said source, characterised in that said helical portion is arranged in a chamber the walls of which have reflective surfaces, the distance between said walls and said helical portion being sufficient to allow
10 the circulation of air between them, said helical portion of the duct for the fluid having an elliptical-shaped passage section with the major axis perpendicular to the irradiation direction.
2. Apparatus according to claim 1, wherein air circulation
15 slits are formed on the walls of said chamber.
3. Apparatus according to claims 1 or 2, wherein the distance between the walls of said chamber and said helical portion is at least 5 mm.
4. Apparatus according to any one of the previous claims,
20 wherein said ultraviolet radiation source is tubular-shaped and the major axis of the elliptical section of said helical portion is parallel to the longitudinal axis of said source.
5. Apparatus according to any one of the previous claims,
25 wherein outside of said chamber an indicator light is provided and is optically connected to said ultraviolet radiation source through an optical fibre placed in contact with the lamp or in its immediate vicinity.